

REMARKS

Claims 1-31 are pending at the time of the Office Action. In the Office Action transmitted on December 28, 2006, the Examiner took the following action: (1) objected to Figure 7 as illegible; (2) objected to claims 4 and 12 because of informalities; (3) rejected claims 1-2 and 9-10 under 35 U.S.C. §102(b) as being anticipated by Lindgren (U.S. 6,097,835); (4) rejected claims 17, 20-21 and 25 under 35 U.S.C. §102(b) as being anticipated by Lee (U.S. 5,995,681); (4) rejected claims 3, 11, and 30-31 under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee; (5) rejected claims 4-8 and 12-16 under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee, and in further view of Ogawa (U.S. 5,864,632); and (6) rejected claims 18-19, 22, and 26-27 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Ogawa. Claims 1, 4, 9-12, 17, and 30 are amended. Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the following remarks.

I. Objection to the Drawings

Figure 7 is objected to as illegible. A replacement Figure 7 is hereby submitted. Accordingly, applicants respectfully request reconsideration and withdrawal of this objection.

II. Claim Objections

Claims 4 and 12 are objected to because of informalities. Applicants have amended claim 4 to recite “the selected landmark” instead of “the selected location.” Furthermore, applicants have also amended claim 12 to recite “a plurality of landmarks” instead of “a plurality of landmark”. Accordingly, applicants respectfully request reconsideration and withdrawal of the objections to claims 4 and 12.

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III. Rejections under 35 U.S.C. §102(b)

Claims 1-2 and 9-10 are rejected under 35 U.S.C. §102(b) as being anticipated by Lindgren; claims 17, 20-21 and 25 are rejected under 35 U.S.C. §102(b) as being anticipated by Lee. Applicants respectfully traverse the rejections, and submit the claims are allowable over the cited reference to Lindgren.

Lindgren (U.S. 6,097,835)

Lindgren teaches projective panchromatic sharpening method and apparatus that combine registered high spatial resolution panchromatic imagery and lower spatial resolution multispectral imagery to synthesize higher spatial resolution multispectral imagery. (1:61-64). The projective panchromatic sharpening apparatus comprises a first component that determines the linear radiometric relationship between the panchromatic and multispectral bands, and a second component that processes pixels to produce the sharpened product. (2:1-8).

Claims 1-2

Claims 1-2 are rejected under 35 U.S.C. §102(b) as being anticipated by Lindgren. Claim 2 depends from claim 1. Claim 1, as amended, recites:

1. A method for correlating data from images produced by different sensors, the method comprising:
spatially matching images produced by different sensors;
performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and
spectrally correcting one or more of the spatially matched images based on one or more of the other images.

Applicants respectfully assert that claim 1 is patentable over Lindgren. Specifically, Lindgren does not teach or suggest, “performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 1.

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Furthermore, because claim 2 depends from claim 1, it is also allowable over Lindgren for at least the same reason claim 1 is allowable, as well as for additional limitations recited.

Claims 9-10

Claims 9-10 are rejected under 35 U.S.C. §102(b) as being anticipated by Lindgren.

Claim 10 depends from claim 9. Claim 9, as amended, recites:

9. A system for correlating data from two or more satellite images from different sensors, the system comprising:
a spatial comparator configured to spatially match images produced by different sensors;
an image corrector configured to perform at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and
a spectral corrector configured to spectrally correct one or more of the spatially matched images based on one or more of the other images.

Applicants respectfully assert that claim 9, as amended, is patentable over Lindgren. Specifically, Lindgren does not teach or suggest “a correction component configured to perform at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 9.

Furthermore, because claims 10 depend from claim 9, it is also allowable over Lindgren for at least the same reason claim 9 is allowable, as well as for additional limitations recited.

Lee (U.S. 5,995,681)

Lee teaches a digital image processing system that reduces errors in the parameters of a sensor geometry model. (1:11-15). Lee teaches the use of a co-registration mechanism to co-registers the reduced accuracy working digital image with a reference image. (2:41-44). The imagery co-registration operator adjusts the respective geometry models associated with the

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input images to bring the respective images into effective co-registration on image registration surface. (2:52-59).

Claims 17 and 20-21

Claims 17 and 20-21 are rejected under 35 U.S.C. §102(b) as being anticipated by Lee.

Claims 20-21 depend from claim 17. Claim 17, as amended, recites:

17. A system for correlating plurality of satellite images from different sources, the system comprising:
a user interface device;
a display device;
a database for storing landmark information; and
a processor coupled to the user interface device, the display device, and the database, the processor including:
a first component for instructing the display device to present one of the satellite images based on the stored landmark information;
a second component for setting control points in the satellite images based on a signal generated by the user interface;
a third component for aligning the images based on the set control points;
a fourth component for performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and
a fifth component for spectrally correcting one or more of the spatially matched images based on one or more of the other images.

Applicants respectfully assert that claim 17, as amended, is patentable over Lee. Specifically, Lee does not teach or suggest “a correction component configured to perform at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 17. Furthermore, because claims 20-21 depend from claim 17, they are also allowable over Lee for at least the same reason claim 17 is allowable, as well as for additional limitations recited in those claims.

Claim 25

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Claim 25 is rejected under 35 U.S.C. §102(b) as being anticipated by Lee. Claim 25 recites:

25. A user interface for selecting control points on a plurality of satellite images from different sources for alignment, the user interface comprising:

- a first component for displaying one of the satellite images;
- a second component for selecting a landmark from a database of landmarks located within a geographic area common to the plurality of satellite images;
- a third component for adjusting the displayed satellite image to present the selected landmark; and
- a fourth component for selecting a control point associated with a visual feature that is approximately adjacent to the selected landmark.

Applicants respectfully assert that claim 25 is patentable over Lee. Lee does not teach or suggest, in addition to a component that allows the selection of ground control points, “a second component for *selecting a landmark from a database of landmarks* located within a geographic area common to the plurality of satellite images,” as recited in claim 25. (emphasis added). Specifically, Lee teaches that an operator may locate ground control points, but Lee does not teach that an operator may select a landmark from a landmark database. (1:52-2:2).

Accordingly, since Lee does not teach that that an operator may select a landmark from a landmark database, Lee also cannot teach, “a third component for adjusting the displayed satellite image *to present the selected landmark*,” and “a fourth component for selecting a control point associated with a visual feature that is approximately adjacent to the *selected landmark*,” as recited in claim 25. (emphasis added).

IV. Rejections under 35 U.S.C. §103(a)

Claims 3, 11, and 30-31 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee; claims 4-8 and 12-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee, and in further view of Ogawa; and claims 18-19, 22,

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and 26-27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Ogawa.

Claim 3

Claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee. Claim 3 depends from claim 1. Claim 1, as amended, recites:

1. A method for correlating data from images produced by different sensors, the method comprising:
spatially matching images produced by different sensors;
performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and
spectrally correcting one or more of the spatially matched images based on one or more of the other images.

Applicants respectfully assert that the cited references to Lindgren and Lee, whether individually or in combination, do not disclose, teach or fairly suggest every aspect of claim 1. First, Lindgren does not teach, “performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 1. Second, applicants respectfully submit that the deficiencies of Lindgren are not remedied by Lee. Lee also does not disclose, teach or fairly suggest, “performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 1.

Accordingly, the cited references to Lindgren and Lee, whether individually or in combination, do not teach, disclose or fairly suggest the system recited in claim 1. Furthermore, since claim 3 depends from claim 1, it is at least allowable for the same reason that makes claim 1 allowable over the cited references, as well as for additional limitations recited.

Claim 11

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Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee. Claim 11 depends from claim 9. Claim 9, as amended, recites:

9. A system for correlating data from two or more satellite images from different sensors, the system comprising:
a spatial comparator configured to spatially match images produced by different sensors;
an image corrector configured to perform at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and
a spectral corrector configured to spectrally correct one or more of the spatially matched images based on one or more of the other images.

Applicants respectfully assert that the cited references to Lindgren and Lee, whether individually or in combination, do not disclose, teach or fairly suggest every aspect of claim 9. To this end, applicants respectfully incorporate the arguments presented above in response to the rejection of claim 3 under 35 U.S.C. §103(a) by analogy, and assert that neither Lindgren and Lee disclose, teach or fairly suggest, “a correction component configured to perform at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 9.

Accordingly, the cited references to Lindgren and Lee, whether individually or in combination, do not teach, disclose or fairly suggest the system recited in claim 9. Furthermore, since claim 11 depend from claim 9, it is least allowable for the same reason that makes claim 9 allowable over the cited references, as well as for additional limitations recited.

Claims 30-31

Claims 30-31 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee. Claim 31 depends from claim 30. Claim 30, as amended, recites:

30. A method for correlating data from images produced by different sensors, the method comprising:
spatially matching images produced by different sensors;

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setting a plurality of control points in the images based on landmark information; performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and spectrally correcting one or more of the spatially matched images based on spectral information associated with one or more of the set control points in the images.

Applicants respectfully assert that the cited references to Lindgren and Lee, whether individually or in combination, do not disclose, teach or fairly suggest every aspect of claim 30. To this end, applicants respectfully incorporate the arguments presented above in response to the rejection of claim 3 under 35 U.S.C. §103(a) by analogy, and assert that neither Lindgren and Lee disclose, teach or fairly suggest, “performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 30.

Accordingly, the cited references to Lindgren and Lee, whether individually or in combination, do not teach, disclose or fairly suggest the system recited in claim 30. Furthermore, since claim 31 depend from claim 30, it is least allowable for the same reason that makes claim 30 allowable over the cited references, as well as for additional limitations recited in those claims.

Ogawa (U.S. 5,864,632)

Ogawa teaches a map editing device that is capable of supplementing insufficient information and re-measuring an object that has changed. (1:64-66). The map editing device generates and displays a perspective projection map when a user manually changes the projection center and the projection angle. (2:33-39). The map editing is also capable of supplementing insufficient information based on the projection center and the projection angle. (2:39-50).

Claims 4-8

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Claims 4-8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee, and in further view of Ogawa. Claims 4-8 depend from claim 1. Claim 1, as amended, recites:

1. A method for correlating data from images produced by different sensors, the method comprising:
 - spatially matching images produced by different sensors;
 - performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and
 - spectrally correcting one or more of the spatially matched images based on one or more of the other images.

Applicants respectfully assert that the cited references to Lindgren, Lee and Ogawa, whether individually or in combination, do not disclose, teach or fairly suggest every aspect of claim 1. To this end, applicants respectfully incorporate the arguments presented above in response to the rejection of claim 3 under 35 U.S.C. §103(a) by analogy, and assert that neither Lindgren and Lee disclose, teach or fairly suggest, “performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 1.

Furthermore, the deficiencies of Lindgren are also not remedied by the Ogawa. Ogawa also does not teach, performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 1.

Accordingly, the cited references to Lindgren, Lee, and Ogawa, whether individually or in combination, do not teach, disclose or fairly suggest the system recited in claim 1. Furthermore, since claims 4-8 depend from claim 1, they are least allowable for the same reason that makes claim 1 allowable over the cited references, as well as for additional limitations recited in those claims.

Claims 12-16

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Claims 12-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lindgren in view of Lee, and in further view of Ogawa. Claims 12-16 depend from claim 9. Claim 9, as amended, recites:

9. A system for correlating data from two or more satellite images from different sensors, the system comprising:
 - a spatial comparator configured to spatially match images produced by different sensors;
 - an image corrector configured to perform at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and
 - a spectral corrector configured to spectrally correct one or more of the spatially matched images based on one or more of the other images.

Applicants respectfully assert that the cited references to Lindgren, Lee and Ogawa, whether individually or in combination, do not disclose, teach or fairly suggest every aspect of claim 1. To this end, applicants respectfully incorporate the arguments presented above in response to the rejection of claim 3 under 35 U.S.C. §103(a) by analogy, and assert that neither Lindgren and Lee discloses, teaches, or fairly suggests, “a correction component configured to perform at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 9.

Furthermore, the deficiencies of Lindgren are also not remedied by the Ogawa. Ogawa also does not teach, “a correction component configured to perform at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 9.

Accordingly, the cited references to Lindgren, Lee, and Ogawa, whether individually or in combination, do not teach, disclose or fairly suggest the system recited in claim 9. Furthermore, since claims 12-16 depend from claim 9, they are least allowable for the same reason that makes claim 9 allowable over the cited references, as well as for additional limitations recited in those claims.

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Claims 18-19 and 22

Claims 18-19 and 22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Ogawa. Claim 18-19 and 22 depend from claim 17. Claim 17, as amended, recites:

17. A system for correlating plurality of satellite images from different sources, the system comprising:

- a user interface device;
- a display device;
- a database for storing landmark information; and
- a processor coupled to the user interface device, the display device, and the database, the processor including:
 - a first component for instructing the display device to present one of the satellite images based on the stored landmark information;
 - a second component for setting control points in the satellite images based on a signal generated by the user interface;
 - a third component for aligning the images based on the set control points
 - a fourth component for performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images; and
 - a fifth component for spectrally correcting one or more of the spatially matched images based on one or more of the other images.

Applicants respectfully assert that the cited references to, Lee and Ogawa, whether individually or in combination, do not disclose, teach or fairly suggest every aspect of claim 17. First, applicants respectfully incorporate the arguments presented above in response to the rejection of claim 17 under 35 U.S.C. §102(b) by analogy, and assert that Lee does not disclose or suggest, “a fourth component for performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 17.

Second, the deficiencies of Lee are not remedied by Ogawa. Ogawa also does not teach or suggest “a fourth component for performing at least one of a solar illumination correction and an atmospheric correction on the spatially matched images,” as recited in claim 17.

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Accordingly, the cited references to Lee and Ogawa, whether individually or in combination, do not teach, disclose or fairly suggest the system recited in claim 17. Furthermore, since claims 18-19 and 22 depend from claim 17, they are least allowable for the same reason that makes claim 17 allowable over the cited references, as well as for additional limitations recited in those claims.

Claims 26-27

Claims 26-27 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Ogawa. Claim 26-27 depend from claim 25. Claim 25 recites:

25. A user interface for selecting control points on a plurality of satellite images from different sources for alignment, the user interface comprising:

- a first component for displaying one of the satellite images;
- a second component for selecting a landmark from a database of landmarks located within a geographic area common to the plurality of satellite images;
- a third component for adjusting the displayed satellite image to present the selected landmark; and
- a fourth component for selecting a control point associated with a visual feature that is approximately adjacent to the selected landmark.

Applicants respectfully assert that the cited references to Lee and Ogawa, whether individually or in combination, do not disclose, teach or fairly suggest every aspect of claim 25. First, applicants respectfully incorporate the arguments presented above in response to the rejection of claim 25 under 35 U.S.C. §102(b) by analogy, and assert that Lee does not teach or suggest, “a second component for *selecting a landmark from a database of landmarks located within a geographic area common to the plurality of satellite images*,” as recited in claim 25. (emphasis added).

Moreover, the deficiencies of Lee are not remedied by Ogawa. Specifically, Ogawa teaches a means for extracting ground control points from tracing the images of objects such as

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roads, buildings, fields, and woods. (6:30-38). However, Ogawa does not teach that its ground control point extraction means allows a user to select a specific landmark, such as a particular building, from a database of landmarks. Thus, Ogawa also cannot teach or suggest, “a second component for *selecting a landmark from a database of landmarks* located within a geographic area common to the plurality of satellite images,” as recited in claim 25. (emphasis added).

Accordingly, the cited references to Lee and Ogawa, whether individually or in combination, do not teach, disclose or fairly suggest the system recited in claim 25. Furthermore, since claims 26-27 depend from claim 25, they are least allowable for the same reason that makes claim 25 allowable over the cited references, as well as for additional limitations recited in those claims.

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CONCLUSION

Applicants respectfully submit that pending claims 1-31 are now in condition for allowance. If there are any remaining matters that may be handled by telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

Dated: 2-2-07

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Enclosures:

Replacement Drawings

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